

**Rymer, Edwina**

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**From:** Dorsey, Nancy  
**Sent:** Thursday, December 12, 2013 8:05 AM  
**To:** Dellinger, Philip;R6 6WQ-SG;Dwyer, Stacey  
**Subject:** RE: Dallas Observer - SMU Will Deploy Seismic Monitors Around Azle to Learn Source of Earthquake Swarms

**M 2.5 - 5km SSW of Pottsboro, Texas**

**DYFI? - III**

## **M2.5 - CENTRAL TEXAS**

### **Preliminary Earthquake Report**

Magnitude	2.5
Date-Time	11 Dec 2013 17:42:22 UTC 11 Dec 2013 11:42:22 near epicenter 11 Dec 2013 10:42:22 standard time in your timezone
Location	33.716N 96.703W
Depth	5 km
Distances	5 km (3 mi) SSW of Pottsboro, Texas 12 km (7 mi) NW of Sherman, Texas 16 km (9 mi) WSW of Denison, Texas 41 km (25 mi) ENE of Gainesville, Texas 208 km (128 mi) SSE of Oklahoma City, Oklahoma
Location Uncertainty	Horizontal: 0.0 km; Vertical 1.6 km
Parameters	Nph = 15; Dmin = 143.5 km; Rmss = 0.82 seconds; Gp = 129° Version =
Event ID	us c000lit1

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**From:** Dellinger, Philip  
**Sent:** Thursday, December 12, 2013 7:56 AM  
**To:** R6 6WQ-SG; Dwyer, Stacey  
**Subject:** FW: Dallas Observer - SMU Will Deploy Seismic Monitors Around Azle to Learn Source of Earthquake Swarms

Fyi.

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**From:** Casso, Ruben  
**Sent:** Thursday, December 12, 2013 7:54 AM  
**To:** Lawrence, Rob; Dellinger, Philip  
**Subject:** Dallas Observer - SMU Will Deploy Seismic Monitors Around Azle to Learn Source of Earthquake Swarms

# SMU Will Deploy Seismic Monitors Around Azle to Learn Source of Earthquake Swarms

By [Brantley Hargrove](#) Wed., Dec. 11 2013



The shaking around Azle and Reno, which I will hereafter refer to as "San Andreas Minor," has attracted the attention of the U.S. Geological Survey precisely because the area has almost no record of seismic activity. A few studies, including one recently from SMU, point to correlation between the epicenter of the earthquake swarms and the locations of underground injection wells for fracking wastewater.

However, there isn't enough granular, on-site seismic data to draw hard conclusions yet. It's thought that the injection alters the bedrock stresses on faulting in this area, inducing slippages that produce quakes like the [magnitude 3.6](#) detected in near Azle just a few days ago. The USGS says this is entirely possible, but to arrive at that degree of certainty, it needs more data, which is why it just lent SMU [four seismic monitors](#) to be positioned in private homes, public buildings and schools in the area.

Another entity with an intimidating acronym, Program for Array Seismic Studies of the Continental Lithosphere (PASSCAL), will provide some 15 sensors to the effort. "We are first going to focus in on where the earthquakes have been occurring -- about a five- to six-mile area near Reno and Azle," said Heather DeShon, SMU associate professor of geophysics. "How long the monitors remain depends on continued seismicity. We're thinking a few months."

SMU will not disclose the location of the sensors for data integrity reasons, but they will not be deliberately placed near injection wells so that a link, if it exists, can be confirmed without bias.

Unfair Park spoke with a geophysicist from USGS' National Earthquake Information Center in Golden, Colorado, about why it needs better on-site monitoring. It's detecting each of these earthquakes, but it can't differentiate them. "What an earthquake is, whether it's induced or natural, when rock breaks and stored-up energy is released, seismic waves -- like sound waves -- in the rocks, each of our instruments records how ground moves, and that doesn't look any different regardless of what the source is."

And that's why this locational data are so important.

By the day, the position of the Railroad Commission of Texas -- charged with regulating injection wells -- becomes more and more untenable. Despite several studies identifying a strong correlation

between these wells and seismic activity, the agency maintains that [no real evidence of a link has been found](#). This despite the fact that researchers have linked injection wells to quakes in the Haynesville Shale of East Texas, and that Chesapeake Energy shut down two injection wells near DFW Airport and one near Cleburne because of earthquakes.

Last time [\*EnergyWire\*](#) checked, the agency had visited the site of a single injection well in the area. It's not clear what the agency would do even if it did launch a diligent investigation. The agency's rules don't address earthquakes as a cause for regulatory action